

REMARKS

Reconsideration is requested.

Claims 54, 56-58, 60-76, 78-80 and 82-96 are pending. Claims 64-69, 73, 74, 85-91, 95 and 96 have been withdrawn from consideration.

Rejoinder and allowance of any claim defining a method of making and/or using a product defined by an allowable claim, at an appropriate time, are requested.

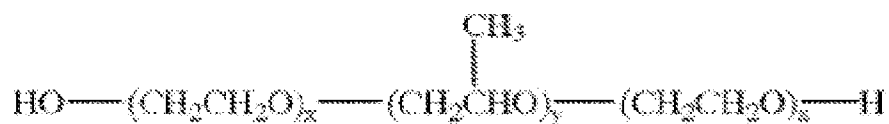
A Decision on the applicants Petition of October 25, 2007 is again requested

The Section 102 rejection of claims 54, 56-58, 60-62, 71, 75, 76, 78-80, 82-84, and 93 over Nakatsu et al (U.S. Patent No. 6,790,269) is traversed. Reconsideration and withdrawal of the rejection are requested in view of the fact that the present application was filed in the U.S. on September 23, 2003 and the cited patent is only available as a reference under Section 102(b) as of September 14, 2004 (i.e., the date of issuance of the patent). The cited patent was filed in the U.S. on April 28, 2003, according to the face of the patent. The present application however claims benefit of P2002-271696 and P2002-332751, filed in Japan on September 18, 2002 and November 15, 2002, respectively. Certified copies of the priority documents are contained in the PTO IFW. The BIBDATASHEET contained in the PTO IFW on September 23, 2004 confirms that the applicants have claimed priority and that the conditions of 35 USC 119 have been met. The undersigned is of the understanding that a certified English translation of the priority documents is being prepared and the same will be filed when received by the undersigned.

Withdrawal of the Section 102(b) rejection of claims 54, 56-58, 60-62, 71, 75, 76, 78-80, 82-84, and 93 over Nakatsu et al is requested.

The Section 103 rejection of claims 54, 56-58, 60, 62, 63, 72, 75, 76, 78-80, 82, 84 and 94 over Fague (U.S. Patent No. 6,193,792) is traversed. The Section 103 rejection of claims 54, 56-58, 60, 62, 63, 72, 75, 76, 78-80, 82, 84 and "8592-94"¹ over Santilli (U.S. Patent No. 5,738,716) is traversed. Reconsideration and withdrawal of the rejections are requested in view of the following distinguishing comments.

The Examiner asserts, as a basis for the rejection over Fague, that the cited patent teaches an ink composition comprising water and a surfactant of the following formula:



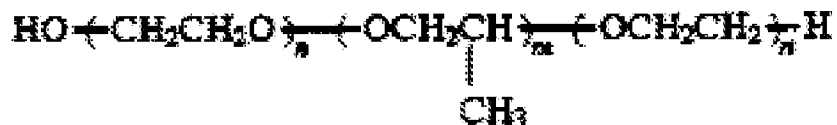
.² The Examiner asserts that the surfactant of this formula "appears to encompass formula V and XIII" of the claims.³ The Examiner admits on page 5 of the Office Action dated December 26, 2008 that "The reference fails to teach the specific formula set forth by structures V and XIII." The Examiner's use of the term "encompass" therefore is unclear and clarification is requested in the event the rejection is maintained.

¹ See page 5 of the Office Action dated December 26, 2008. The statement of the rejection is believed to apply to claims "85 and 92-94" however the Examiner is requested to advise the undersigned if otherwise.

² See page 4 of the Office Action dated December 26, 2008.

³ Id.

In a similar manner, the Examiner asserts, as a basis for the rejection over Santilli, that the cited patent teaches an ink composition comprising water and a surfactant of the following formula:



.⁴ The Examiner admits on page 7 of the Office Action dated December 26, 2008 that “The reference fails to teach the specific formula set forth by structures V and XIII.”

The Examiner is requested to appreciate that the structures of formulas V and XIII of the claims do not include the branched structure (iso-propylene) of the cited patent. In the case of the noted structure of Santilli, the structures of the claims do not include the peroxide (–O–O–) bond of the cited art. The Examiner’s reliance on the structure of the surfactant of the cited patent as a basis for allegedly establishing a *prima facie* case for obviousness therefore is misplaced. The Examiner has not established that in the generally unpredictable chemical arts the structures of the cited art would provide the required relationship of the claims (i.e., the following relationship (1):

$$0 \leq [\text{dynamic surface tension (mN/m)}] - [\text{static surface tension (mN/m)}] \leq 7 \text{ (mN/m) (1)}.$$

The applicants submit that the inclusion of a branched structure in the cited art will provide a different conformational, three-dimensional structure of the compounds and thus significantly affect the physical properties of the compounds, including polarity.

The applicants believe therefore that the physical and chemical characteristics, such as the surface tension, of the compounds are unpredictable from a review of the structures alone. There is no evidence of record to demonstrate the the surfactants of Fague and Santilli have the same or similar surface tension as that of the surfactant of formulas (V) or (XIII) of the present claims.

Moreover, the applicants note in this regard that Fague teaches a criticality to the inclusion of the branched surfactant of the above structure as it is the only surfactant required by the ink compositions of Fague.⁵ There is no suggestion in Fague to have altered the compositions described therein to make a composition of the present claims.

The Examiner has asserted that the similar structure of the surfactants alone, with a similarity in the pigments and static surface tensions, allegedly establishes a *prima facie* case of obviousness. The Examiner asserts that

if the static surface tension is achieve with a surfactant claimed by Applicant that the composition would obvious have a similar dynamic surface tension to yield the difference of surface tension, absent tangible evidence to the contrary.⁶

The Examiner relies on In re Merck 231 USPQ 375 (Fed. Cir. 1996) for the assertion that a *prima facie* case of obviousness may be established “for chemical compositions ... by showing structural similarity in combination with similar chemical properties.”⁷

⁴ See page 6 of the Office Action dated December 26, 2008.

⁵ See column 5, lines 21-38 of Fague.

⁶ See page 5 of the Office Action dated December 26, 2008.

⁷ See pages 5 and 7 of the Office Action dated December 26, 2008.

The issue considered by the court in Merck however was the obviousness of a method, and not a compound, as represented by the following claim:

1. A method of treating human mental disorders involving depression which comprises orally administering to a human affected by depression 5-(3-dimethylaminopropylidene) dibenzo [a,d] [1,4] cycloheptadiene or its non-toxic salts in daily dosage of 25 to 250 mg. of said compound.⁸

The Merck court characterized the art cited by the Examiner in Merck as follows:

The prior art taught that amitriptyline and imipramine are both psychotropic drugs which react on the central nervous system and which were known in the art prior to the time of appellant's invention. Imipramine was known to possess antidepressive properties in humans. While amitriptyline was known to possess psychotropic properties such as sedative and narcosis-potentiating properties, the drug was not known to be an antidepressant. However, the prior art has shown that imipramine and amitriptyline are unquestionably closely related in structure. Both compounds are tricyclic dibenzo compounds and differ structurally only in that the nitrogen atom located in the central ring of imipramine is interchanged with an unsaturated carbon atom in the central ring of amitriptyline. To show obviousness, it was necessary to determine from knowledge already available in the art at the time of appellant's invention that one skilled in the medicinal chemical art would have expected amitriptyline, like imipramine, to be useful in the treatment of depression in humans.⁹

The Merck court followed the Board's analysis of *prima facie* obviousness required by Graham v. John Deere Co., 148 USPQ 459, 466-67 (1966).¹⁰

The Merck court also noted however that

⁸ See 231 USPQ 376. The compound of the claims considered by the Merck court is commonly known and referred to as "amitriptyline". See 231 USPQ 375.

⁹ See 231 USPQ 378.

¹⁰ Id.

“Structural similarity, alone, may be sufficient to give rise to an expectation that compounds similar in structure will have similar properties.” In re Payne, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979).¹¹

The Merck court found that the Board

did not rest its conclusion of obviousness on structural similarity alone. Rather, the Board further recognized that in attempting to predict the biological activities of a drug, a skilled medicinal chemist would not proceed randomly, but would base his attempts on the available knowledge of prior research techniques, and literature used in his field. The prior art showed that one such technique was “bioisosteric replacement” or the theory of bioisosterism -- where the substitution of one atom or group of atoms for another atom or group of atoms having similar size, shape and electron density provides molecules having the same type of biological activity.¹²

Contrary to the Board and the court in Merck, the present Examiner is believed to have improperly based the alleged obviousness rejections on “structural similarity alone.”

Withdrawal of the Section 103 rejections is requested.

The claims are submitted to be in condition for allowance and a Notice to that effect is requested. The Examiner is requested to contact the undersigned, preferably by telephone, in the event anything further is required.

¹¹ See 231 USPQ 379.

¹² Id.

KAMOTO, T. et al.
Appl. No. 10/665,088
Atty. Ref.: 1114-189
Response After Final Rejection
February 26, 2009

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /B. J. Sadoff/
 B. J. Sadoff
 Reg. No. 36,663

BJS:
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100